Pure Math 30 Numerical Response

Numerical Response

To the nearest hundredth, the value of x that satisfies the equation $5^x = 625^{8x-1}$ is _____.

(Record your answer in the numerical-response section on the answer sheet.)

Numerical Response

A pizza restaurant has a selection of 16 different toppings for its pizzas. The restaurant's \$12 pizza has 1, 2, or 3 toppings. The number of different \$12 pizzas that a customer can choose from is _____.

(Record your answer in the numerical-response section on the answer sheet.)

Numerical Response

1. The graph of $y = \cot(2x)$ has one zero in the domain $0 < x < \frac{\pi}{2}$ at $(k, 0)$. The value of k, to the nearest hundredth of a radian, is _____ rad.

(Record your answer in the numerical-response section on the answer sheet.)

Numerical Response

If $\log_2 x = 6$ and $\log_k x = \frac{3}{2}$, then the value of k, to the nearest whole number, is _____.

(Record your answer in the numerical-response section on the answer sheet.)

Use the following information to answer the next question.

The estimated value of a particular painting is given by the equation

$$V = V_0(2.5)^{\frac{t}{5}},$$

where V_0 = the original value

t = the number of years from the original purchase date

V = the value after t years

Numerical Response

The number of years, to the nearest tenth, that it will take for the painting to increase to 10 times its original value is _____ years.

(Record your answer in the numerical-response section on the answer sheet.)

Numerical Response

Charlene is planting a row of sunflowers in a flower bed. The height of the sunflowers is normally distributed with a mean height of 61 cm and a standard deviation of 2.3 cm. If Charlene has planted a row containing 20 sunflowers, then the number of sunflowers expected to have a height between 55 cm and 63 cm is _____.

(Record your answer in the numerical-response section on the answer sheet.)